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J. FRANCIS MACBRIDE
AND COLLABORATORS

ADDITIONS TO TRIBE VERNONIEAE (COMPOSITAE): I

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CONTENTS

Additions to Tribe Vernonieae (Compositae)	1
<i>Pacourina</i>	1
1. <i>Pacourina edulis</i>	2
<i>Stilpnopappus</i>	2
1. <i>Stilpnopappus aquaticus</i>	4
<i>Trichospira</i>	4
1. <i>Trichospira verticillata</i>	6
Acknowledgment	7

LIST OF ILLUSTRATIONS

1. <i>Pacourina edulis</i>	3
2. <i>Stilpnopappus aquaticus</i>	5
3. <i>Trichospira verticillata</i>	6

Additions to the Tribe VERNONIEAE (Compositae)

Since the recent treatment of the tribe Vernoniaceae (Compositae) by Samuel B. Jones (1980), three genera new to Peru have surfaced from recent collections. All have previously been reported from adjacent countries (e.g., Brazil), and continued botanical exploration in poorly known Amazonian Peru will undoubtedly yield further additions.

REFERENCE

JONES, SAMUEL B. 1980. Family Compositae: Part I. Tribe Vernoniaceae. *Field Mus. Nat. Hist., Bot. Ser.* 5: 22-73.

Pacourina Aubl., *Hist. Pl. Guianae* 2: 800. 1775. TYPE: *P. edulis* Aubl.

Pacourinopsis Cass., *Bull. Soc. Philom.* 1817: 151. 1817. LECTOTYPE:¹ *P. dentata* Cass., nom. illeg. = *Pacourina edulis* Aubl.

Erect, aquatic herbs; glabrous. Leaves alternate, amplexicaul or decurrent on the petiole, the blades spinose-dentate to repand-dentate. Inflorescences of solitary capitula in upper leaf axils or opposite the leaves. Capitula discoid, homogamous; involucre hemispheric to depressed-globose; phyllaries multiseriate, imbricate, the margins scarious, apically spinulose; receptacles flat, epaleate; florets hermaphroditic, the corollas white to pale purple, tubular, actinomorphic, the tube slender, basally dilated, the limb narrow, 5-lobed; anthers basally sagittate, the auricles subobtusate, the terminal appendages acute, the style branches linear, subulate, hirtellous. Achenes cylindrical-fusiform, 10-ribbed, glandular; pappus 2-seriate, the outer bristles caducous, the inner coroniform entire or denticulate, caducous.

This genus is monotypic and ranges from the West Indies (Dominican Republic) and Central America (Guatemala, Nicaragua) to tropical and subtropical South America (Colombia, Ecuador, Bolivia, Brazil, Paraguay, and Argentina).

This study was assisted by National Science Foundation Grant DEB-78-05078 (Alwyn H. Gentry, principal investigator).

¹Pfeiffer (Nom. 2: 565. 1874) designated *Pacourina cirsiifolia* H.B.K. (Nov. Gen. Sp. Pl. 4: 24. ed. fol. 1818) the type, it being the basionym of *Pacourinopsis dentata* Cass., and also placed the genus in synonymy under *Pacourina*.

1. *Pacourina edulis* Aubl., Hist. Pl. Guiane 2: 800. 1775. TYPE: French Guiana, near Kourou, *Aublet s.n.* (?BM, not seen).

Pacourina cirsiifolia H. B. K., Nov. Gen. Sp. Pl. 4: 24. ed. fol. 1818. TYPE: Ecuador, Guayas, "crescit in humidis prope Guayaquil Quitensium," Humboldt & Bonpland 3839 (P, holotype, not seen, IDC Microfiche 6209. 91: I. 5).

Pacourinopsis dentata Cass., Dict. Sci. Nat. 37: 212. 1825. TYPE: based upon *Pacourina cirsiifolia* H. B. K.

Pacourinopsis integrifolia Cass., Dict. Sci. Nat. 37: 212. 1825. TYPE: French Guiana, near Cayenne, Martin (FI or P, not seen).

Pacourina edulis Aubl. var. *spinosissima* Britton, Ann. N.Y. Acad. Sci. 7: 132. 1893. TYPE: Paraguay, Asuncion, Morong 224 (NY, holotype, not seen).

Erect, aquatic herbs to 2 m tall; stems unbranched, hollow, striate, 1–3 cm in diameter at the base. Leaves broadly to narrowly oblong-elliptic, 10–20(–25) cm long, 1–5 cm wide, the margins subentire or remotely repand-dentate, the teeth spinulose, apically attenuate, basally narrowed into a broad, petioliform base, 2–3 cm long, asperous and glandular-punctate above, glabrous and glandular-punctate below. Capitula solitary in the upper leaf axils or opposite the leaves, sessile, 1–2 cm high, 1–2 cm wide; phyllaries multiseriate, narrowly ovate to broadly ovate-oblong, 7–20 mm long, 6–8 mm wide, apically dilated, squarrose, spinulose, glandular, the margins scarious; corollas ca. 11 mm long, the lobes 4–5 mm long, the anthers ca. 6.5 mm long, the style branches 6–7 mm long. Achenes 8–10 mm long, 1.5–2.0 mm wide; pappus 2-seriate, the outer bristles 2–3 mm long, the inner corona ca. 0.3 mm high.

This species inhabits aquatic to semi-aquatic sites associated with rivers and lakes. While it appears rare in Peru, it is widely distributed throughout tropical and subtropical South America.

This taxon is readily distinguished from all other Peruvian Vernoniaceae by its large capitula, with broad spinulose-tipped phyllaries, and large achenes (greater than 2× the length of other Vernoniaceae).

The present collection has narrow leaves that lack the pronounced spine-tipped teeth common to material examined from Central America and northern South America.

MADRE DE DIOS. Tambopata: ca. 30 air km or 70–80 river km SSW of Puerto Maldonado at effluence of Río La Torre (Río D'Orbigny)/Río Tambopata (SE bank); Tambopata Nature Reserve; tropical moist forest, ca. 260 m, Barbour 4866 (F, MO).

- Stilpnopappus** Martius ex DC., Prodr. 5: 75. 1836. LECTOTYPE (here designated): *S. trichospiroides* Mart. ex DC.

Annual or perennial herbs. Leaves alternate, linear or linear-lanceolate to ovate, sessile or petiolate, usually entire or remotely denticulate, usually glabrate above, pubescent to tomentose below. Inflorescences spicate, racemose, corymbose, or solitary; sessile or pedunculate. Capitula discoid, homogamous, 6–50 florets; involucre campanulate or turpinate to subhemispheric; phyllaries multiseriate, imbricate, subherbaceous, the margins densely ciliate, apically spinulose; receptacles flat, alveolate, epaleate; florets hermaphroditic, the corollas actinomorphic, red to white, the tube slender, the limb narrow, 5-lobed; anthers basally sagittate, the auricles obtuse, the terminal appendages acute, the style branches linear, subulate, hirtellous. Achenes narrowly obconical, truncate, 10-ribbed, densely villous, glandular; pappus 2-seriate, the outer squamaform, ciliate, the inner of subulate bristles, usually longer, ciliate.

A genus of some 20 species, previously known from Brazil and Venezuela, usually occurring in cerrado or savanna habitats (500–1,200 m). The following species is somewhat unusual through its occurrence in moist, lowland sites in the Amazonian basin.



FIG. 1. *Pacourina edulis*. A, habit; B, achene. (From Barbour 4866, F.)

1. *Stilpnopappus aquaticus* (Poepp. & Endl.) Dillon, *comb. nov.*

Xiphochaeta aquatica Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 44, t. 250. 1843. TYPE: Brazil, Alto Amazonas, "in ripis paludosis sylvaticis fluminis Teffé," Poeppig 2811 (W, holotype, not seen; F, isotype).

Stilpnopappus viridis Benth. ex Baker in Mart., Fl. Bras. 6: 137. 1873. TYPE: Brazil, Para, "ad cataractas fluv. Aripecurú," Spruce [554] (K, holotype, not seen; M, isotype, F photo).

Annual herbs to 0.5 m tall, suberect, much-branched; stems puberulent. Leaves oblong to lance-oblong, 3–5 cm long, 1–2 cm wide, apically rounded to obtuse, basally cuneate, sparsely strigillose above, puberulent and punctate-glandular below, the margins entire or remotely denticulate; petiolate, 2–4 mm long, or sessile. Inflorescences of solitary capitula, opposite leaf axils, rarely in groups of 2–3, sessile. Capitula with ca. 30 florets, 3–4 mm high, 4–6 mm wide; involucre subhemispheric; phyllaries 3–4-seriate, the outer subulate to lanceolate, the inner lanceolate to oblanceolate, 1–4 mm long, pullose, glandular; corollas white, 2.5–3.0 mm long, the lobes ca. 0.8 mm long, apically glandular. Achenes obconical, 1.5–2.0 mm long; pappus irregularly 2-seriate, the outer 0.4–0.8 mm long, the inner 1.5–2.0 mm long.

This species was previously known from Venezuela and Brazil. It is usually found in open habitats at the margins of lowland rain-forest rivers. *Stilpnopappus aquaticus* appears related to the Brazilian species *S. pratensis* Mart., but the latter species is readily distinguished by its linear-elliptic leaves with tomentum beneath and red corollas. Within the genus, *S. aquaticus* is unique in lacking tomentum on the underside of the leaves, possessing white corollas, and occupying moist lowland habitats.

LORETO. Maynas: lower Rio Itaya, near Iquitos, Davidson & Jones 9924 (F).

Trichospira H.B.K., Nov. Gen. Sp. Pl. 4: 21. ed. fol. 1818. TYPE: *T. methoides* H.B.K. = *T. verticillata* (L.) Blake.

Annual or perennial herbs, occasionally suffrutescent; stems erect or procumbent, often forming mats, much-branched, usually pubescent, glandular. Leaves alternate or the upper subopposite to opposite, sessile, often subariculate, the basal leaves petiolate, the blades punctate-glandular, sparsely sericeous to glabrate above, densely tomentose below, the margins of the cauline leaves crenate or dentate, the basal leaves deeply reccate or shallowly pinnatifid. Inflorescences of solitary or paired capitula, sessile in the axils of upper opposite to subopposite leaves. Capitula discoid, homogamous; involucre glomerulate; phyllaries weakly 1-seriate, membranaceous-scarious, usually viscid apically, the inner ones longer, subtending the outer florets; receptacles flat; paleae membranaceous, narrow, flat; corollas tubular, actinomorphic, blue to purple, the tube slender, the limb narrowly campanulate, deeply 4–5-lobed, the lobes narrow, usually viscid; anthers basally sagittate, the auricles obtuse, the terminal appendages obtuse, the style branches linear, subulate, hirtellous. Achenes dorsally compressed or rarely triquetrous, oblong-cuneate to narrowly oblanceolate, apically truncate, 2–3(–4)-costate, puberulent, glandular; pappus 2-corniculate from the margins of the achene, sometimes with 3–5 small, intermediate corniculate squamellae.

This genus is monotypic and ranges throughout Central America and tropical South America.

REFERENCE

ROBINSON, H., AND R. D. BRETTELL. 1973. Tribal revisions in the Asteraceae. II. The relationship of *Trichospira*. *Phytologia* 25: 259–261.



FIG. 2. *Stilpnopappus aquaticus*. A, habit; B, capitulum. (From Davidson & Jones 9924, F.)

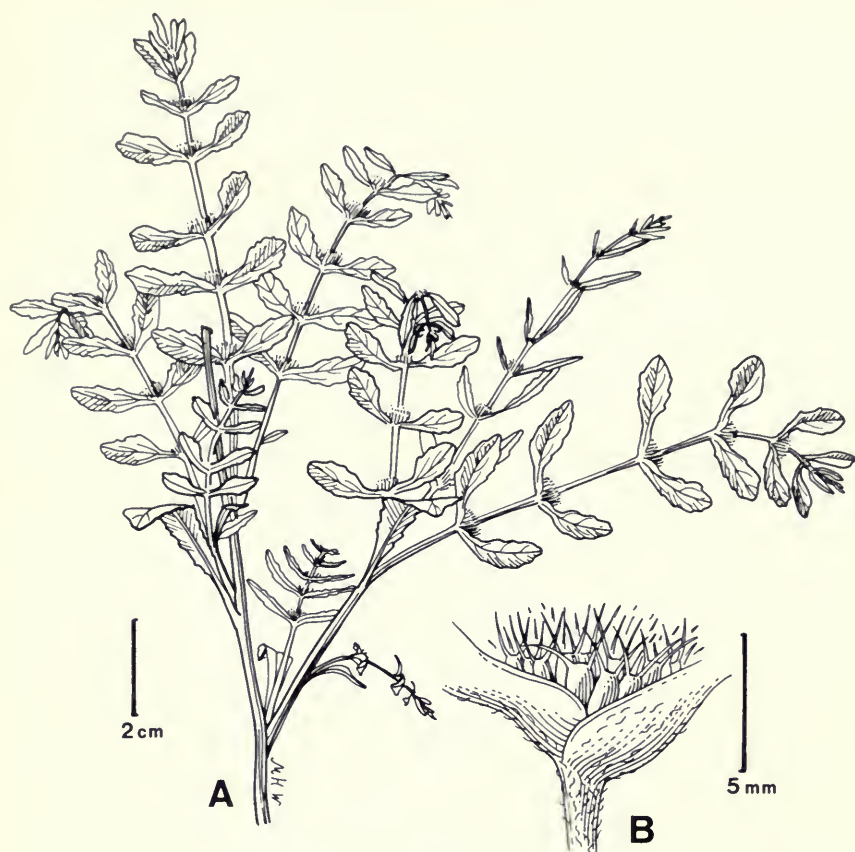


FIG. 3. *Trichospira verticillata*. A, habit; B, capitulum. (From Diaz *et al.* 655, F.)

1. *Trichospira verticillata* (L.) Blake, *Torreyia* 15: 106. 1915.

Bidens verticillata L., *Sp. Pl.* 833. 1753. TYPE: Mexico, Veracruz, *Houston s.n.* (BM, not seen).

Trichospira menthoides H.B.K., *Nov. Gen. Sp. Pl.* 4: 21. 1918. TYPE: Venezuela, Barines, Rio Apure, *Humboldt & Bonpland 810* (P, holotype, not seen, IDC Microfiche 6209. 91. I. 3).

Trichospira biarista Less., *Linnaea* 4: 343. 1829. TYPE: Brazil, *Sello* (B, presumably destroyed, F, photo).

Trichospira pulegium Mart. ex DC., *Prodr.* 5: 91. 1836. TYPE: Brazil, Rio Negro, Japurá, *Martius s.n.* (M, not seen).

Trichospira priourei DC., *Prodr.* 5: 91. 1836. TYPE: French Guiana, Rio Ouessa, *Leprieur 4* (G-DC, holotype, not seen IDC Microfiche 800. 786: I. 1; G-BOIS, isotype, not seen, fragment & photo F).

Annual or perennial **herbs**. Cauline leaves obovate-oblong, (1-)2-5(-6) cm long, 0.5-2.5(-3.0) mm wide, apically obtuse to rounded, basally cuneate or dilated and sub-amplexicaul. **Capitula** 4-5 mm high, 3-4 mm wide; phyllaries 2.5-3.5 mm long, 0.5-0.7 mm wide, lanceolate to oblong, apically acute to rounded, villose, glandular, reddish; paleae oblong, ca. 3.5 mm long, 0.5 mm wide, apically rounded to truncate, villous, glandular, reddish; florets ca. 10, the corollas 1.5-2.0 mm long, blue to purple, the tube ca.

0.7 mm long, the limb ca. 1 mm long, the lobes glandular apically. **Achenes** 2.5–3.0(–4.0) mm long, densely puberulous; pappus 2-corniculate, 2.0–2.5 mm long, the corniculate squamellae 0.2–0.4 mm long.

This species is quite common, being widely distributed throughout northern South America. Its subopposite to opposite leaves in the region of the inflorescence, and bicorniculate pappus serve to distinguish this taxon from all other Peruvian Vernoniaeae. These two characters have caused some confusion concerning the tribal placement of this taxon; however, its position within the Vernoniaeae seems appropriate (Robinson & Brettell, 1973).

LORETO. Maynas: Rio Itaya, 10 min arriba de San Juan de Muniches, margen izquierda, *Diaz et al.* 655 (F, MO).

ACKNOWLEDGMENT

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